



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,994	04/21/2000	Robert Eric Montgomery	13045	7084-

23719 7590 05/01/2002

KALOW & SPRINGUT LLP  
488 MADISON AVENUE  
19TH FLOOR  
NEW YORK, NY 10022

EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 05/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/552,994	MONTGOMERY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeffrey C. Mullis	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 10, 11, 15, 16, 18-20, 22-33, 43 and 52-55 is/are allowed.
- 6) ☒ Claim(s) 8, 9, 12-14, 17, 21, 34-42, 44-51 and 56-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

All remaining rejections and/or objections follow.

The Examiner has reviewed the file and can find nowhere where applicants have requested domestic priority. Furthermore applicants have not provided a statement in the first sentence of their specification regarding priority and therefore any indication that applicants are claiming priority to a domestic application will be stricken from Office records. It is noted that at present Office records indicate that this application is a divisional of Serial No. 09/234,038 and provisional applications 60/074708 and 60/075,222 despite the fact that application Serial No. 09/234,038 provides no support for the instant claims. If applicants have previously requested priority, they might want to resubmit the papers in which priority was claimed since if such papers were submitted, they are now missing from the file. However it does not appear to the Examiner that priority could be claimed to application Serial No. 09/234,038 or the provisional applications referred to.

Claims 8, 9, 12-14, 17, 21, 44 and 45 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The term "molecular weight" or "average molecular weight" is unclear when unqualified as to the type of molecular weight.

Note Nikitin page 64 at the first complete paragraph which discloses that for cellulose "or any other high polymer" the difference between number average and weight average molecular weights "may be very considerable". Note also "Mandelkern" in the section entitled "Preparation" starting on page 19 who discusses the types of mechanisms involved in polymerization and who discloses at the first complete paragraph on page 23 that:

"From the simple considerations of the two basic polymerization mechanisms we have found that the polymer molecules formed will not have all the same molecular weight or chain length. Usually, the broad molecular weight distributions result. The constitution of the system must then be described either by a set of different average molecular weights or by the distribution function itself (emphasis added). Many properties of polymeric systems depend on the details of the molecular weight distribution. The properties of chemically identical systems can be quite different depending upon whether this distribution is narrow or broad."

Note also the first sentence of the second paragraph on page 38 which discloses that "(t)he weight average will always be greater than the number average".

Note also Fried who discloses in Section 1.3.1 on page 16 that:

"A typical synthetic polymer sample contains chains with a wide distribution of chain lengths. This distribution is seldom symmetric and contains the molecules of very high molecular weight. An illustration of a representative distribution is shown in Figure 1.8. The exact breadth of the molecular weight distribution depends on the specific conditions of polymerization as will be described in Chapter 2. For example the polymerization of some polyolefins results in a molecular weight distribution that is extremely broad, while it is possible to polymerize some polymers, such as polystyrene with nearly monodispersed distributions under laboratory conditions. Therefore it is necessary to define an average molecular weight to characterize an individual sample as detailed in the following section (all emphasis added)".

Note the first paragraph of page 18 which discloses

"A measure of the breadth of the molecular weight distribution is given by the ratios of molecular weight averages. For this purpose the most commonly used ratio is  $M_w/M_n$ , which is called the polydispersity

Art Unit 1711

index or PDI. PDI's of commercial polymers vary widely. For example commercial grades of polystyrene with  $M_n$  over 100,000 have polydispersity indices between 2 and 5 while polyethylene synthesized in the presence of a stereospecific catalyst may have a PDI as high as 30."

The Examiner points out that the weight average molecular weight of the above referred to polystyrene would be 2-5 times higher than its number average and the weight average molecular weight of the referred to polyethylene will be 30 times its number average molecular weight.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

---

~~(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.~~

Art Unit 1711

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims <sup>37-43, 46, 47</sup>~~34-47~~, 51 and (56-59) are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jensen et al.

Jensen et al. disclose a composition for adhering two substrates (Abstract) containing "polymerization strength reducers" intended to reduce the amount of heat that the patient experiences, said materials including polyethylene glycols and other diluents (note column 7 line 55 - column 8 line 33) and also containing tissue adherence accentuators such as polyethylene oxides, xanthan gum or guar gum (note the paragraph bridging columns 8 and 9) and also containing materials such as titanium dioxide and silicon dioxide such as in applicants' "light attenuating pigment" (note column 9 lines 14-45). Note the use of photoinitiators such as camphorquinone and curing assistants such as dimethyl toluidine at column 7 lines 30-42.

Art Unit 1711

Both patentees' and applicants' compositions are adhesives which are intended to reduce the amount of heat that a patient experiences and both contain oligomers with a low concentration of unsaturated groups such as generate heat. Therefore applicants' and patentees' peak exotherm characteristic reasonably appears to be inherently the same.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims <sup>37-43, 46, 47</sup>~~34-47~~, 51 and (56-59) are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Oxman et al. (USP 6,187,836).

Oxman et al. disclose a photopolymerizable composition which is capable of proceeding at less than 40°C at column 7 lines 5-18 and therefore appears to inherently possess applicants' characteristic. Note the Examples in column 15 for use of camphorquinone and an acrylate oligomer.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties



Art Unit 1711

which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims <sup>37</sup>~~34~~-42, <sup>46</sup>~~44~~-51 (and 56-59) are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hubbel et al. (WO 93/17669).

Hubbel et al. disclose an adhesive (last paragraph on page 6) which contains a macromer having a molecular weight of as high as 20,000 and two acrylate groups. Note Table 1 on page 20. The macromers are polymerized by addition of an initiator, embracing applicants' curing agent. See "Photopolymerization" on page 25. Both applicants and patentees have an oligomer having an unsaturation index of greater than 500 which is cured and applicants' peak exotherm characteristic appears to be inherent in the reference composition.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine

---

whether or not the reference inherently possesses properties

which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Art Unit 1711

Applicants' arguments filed 1-17-02 have been fully considered but they are not deemed to be persuasive.

With regard to the issue of "molecular weight", the Examiner has provided further clarification under the rejection under 35 U.S.C. § 112 second paragraph above.

With regard to the rejection relying upon Jensen et al., it is noted that the only rejection relying upon Jensen is the rejection under 35 U.S.C. § 102/103 alone and most of applicants' arguments are therefore immaterial to the above rejection. Applicants argue that Jensen's composition includes additives such as reflective materials to lower excess heat released. However applicants' claims do not exclude such materials. Applicants argue that the present invention teaches judicious selection of curable unsaturated compounds that comprise a curable composition as a means of reducing peak exotherms. However the unsaturated compound of Jensen is in no way distinguished from the one recited by the instant claims. The Examiner has reviewed the data in applicants' specification but

---

it is not clear which examples of Jensen applicants' comparative data is an embodiment of. It is noted that Jensen utilizes in some examples the low molecular weight unsaturated materials which are not similar or identical to those recited by the claims but on the other hand also utilizes in some examples higher molecular weight materials with only a few unsaturations such as

Serial No. 09/552,994

-10-

Art Unit 1711

are similar or identical to those of the claims. It is not the position of the Examiner that Jensen's embodiments utilizing very low molecular weight unsaturated materials would inherently possess the characteristics recited by the claims. Furthermore it is noted that the instant claims recite a peak exotherm of "about 50°C" and as about allows for some leeway the temperatures of approximately 60°C shown in applicants' comparative Examples would actually read on those of the claims. With regard to applicants' argument concerning low level of monomer use, Jensen provides examples in which monomeric materials are not present.

This Office action is not being made FINAL.

Any inquiry concerning this communication should be directed to Jeffrey Mullis at telephone number (703) 308-2820.

J. Mullis:cdc

April 30, 2002

Jeffrey Mullis  
Primary Examiner  
Art Unit 1711

